Listing of the Claims

This listing of the claims will replace all prior versions, and listings, of the claims in the application.

1. (Currently Amended) A turbine [[(30)]] for a hydroelectric power plant [[(25)]] intended to equip a water stream at the level of a very low head lower than 10 meters~~, and preferably from 1 to 5 meters,~~ comprising:

a helix-shaped wheel [[(34)]], wherein

the wheel comprises a diameter and rotational speed configured to produce a target[[the]] ratio (K) between the kinetic energy of the water flow having a velocity (V) coming out of the wheel and the potential energy of the head (H) of the water stream entering the wheel is defined by the relationship $K = (100V^2)/2gH$, wherein K is~~being~~ smaller than 20%.

2. (Currently Amended) The turbine of claim 1, in which the diameter of the wheel [[(34)]] is greater than 3 meters.

3. (Currently Amended) The turbine of claim 1, in which the rotation speed of the wheel [[(34)]] is lower than 50 revolutions per minute.

4. (Currently Amended) The turbine of claim 1, comprising: a carter [[(32)]] crossed

by an opening [[(62)]] comprising a cylindrical portion [[(66)]], the wheel [[(34)]] comprising blades [[(48)]] arranged at the level of the cylindrical portion; a hub [[(50)]] on which the blades [[(48)]] are assembled; a fixed box [[(52)]], the hub being rotatably assembled on the fixed box; and a distributor [[(54)]] upstream of the wheel with respect to the water flow and comprising profiles [[(56)]] connecting the fixed box to the carter.

5. (Currently Amended) The turbine of claim 4, in which the opening [[(62)]] comprises a converging portion [[(64)]] upstream of the cylindrical portion [[(66)]] with respect to the water flow and a diverging portion [[(68)]] downstream of the cylindrical portion with respect to the water flow, the ratio between the thickness of the carter according to the rotation axis [[(D)]] of the wheel and the wheel diameter being smaller than 0.5.

6. (Currently Amended) The turbine of claim 4, in which the distributor comprises profiles [[(56)]] distributed in a star around the fixed box [[(52)]], the turbine comprising a screen washing system upstream of the distributor [[(54)]] with respect to the water flow and comprising at least one arm [[(66)]] rotatably assembled around the fixed box [[(32)]] to drive away bulky bodies maintained against the distributor.

7. (Currently Amended) The turbine of claim 4, comprising means ~~(100, 104, 106, 116, 120, 124)~~ for orienting the blades [[(48)]] to ~~adapt the turbine flow rate to the flow rate of the head and/or to~~ close the opening [[(62)]] of the carter [[(32)]].

8. (Currently Amended) The turbine of claim 1, comprising a hydraulic pump [[(92)]] driven by the wheel [[(34)]].

9. (Currently Amended) A hydroelectric power plant [[(25)]] intended to equip a water stream at the level of a very low head lower than 10 meters~~, for example, ranging between 1 and 5 meters~~, comprising a turbine (30) comprising a helix-shaped wheel [[(34)]], wherein

the wheel comprises a diameter and rotational speed configured to produce a target[[the]] ratio K between the kinetic energy of the water flow having a velocity (V) coming out of the wheel and of the potential energy of the head (H) of the water stream entering the wheel is defined by the relationship $K = (100V^2)/2gH$, wherein K is ~~being~~ smaller than 20% such that the turbine avoids having a draft tube arranged downstream of the turbine.

10. (Currently Amended) The hydroelectric power plant of claim 9, comprising a support [[(36)]] delimiting a flow passage in which the head is created and in which the turbine [[(30)]] is arranged, and comprising means ~~(42, 43, 44, 45)~~ for displacing the turbine [[(30)]] with respect to the support [[(36)]] between a first position where the turbine completely closes the passage and at least one second position where the turbine partially closes the passage.

11. (New) A method of operating a turbine of a hydroelectric power plant in a low head water stream, the method comprising:

configuring the turbine to achieve a target ratio (K) between the kinetic energy of the water flow exiting the turbine and the potential energy of the head to be less than 20%, wherein the ratio is defined by $K = (100V^2)/2gH$, where g is the gravitational constant, V is the velocity of the water stream output from the turbine and H is the head height, wherein when operating the turbine in the low head water stream of height H, the target ratio is achieved.

12. (New) The method of claim 11, further comprising the step of:

determining the output velocity of the water stream from the turbine required to achieve the target ratio (K) of less than 20%.

13. (New) The method of claim 11, wherein the step of configuring the turbine comprises selecting the diameter and rotational speed of a wheel of the turbine in order to achieve the target ratio (K) of less than 20%.